

CLAIMS

- 1) A device for detecting the corrosion induced by a medium, characterized in that it comprises a chamber (5) closed by a closing disc (4) made of such a material that said disc becomes permeable to said medium once corroded by said medium, and means for measuring the refractive index of the fluid present in the chamber.
- 2) A device as claimed in claim 1, wherein said measuring means comprise a light source (10) and a photodetector (11).
- 3) A device as claimed in any one of ^{Multiple} claims 1 or 2, wherein said refractive index measuring means comprise at least one optical fibre portion.
- 4) A device as claimed in claim 3, wherein one end of the optical fibre is close to the disc.
- 5) A device as claimed in ^{multiple depends on multiple} any one of the previous claims, wherein said chamber contains air.
- 6) A device as claimed in ^{multiple} any one of the previous claims, wherein said disc is connected to a support withstanding the pressure of the corrosive medium.
- 7) A device as claimed in claim 6, wherein said support is permeable to said medium.
- 8) A device as claimed in any one of claims 1 to 5, comprising means for balancing the pressure on either side of said disc.

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9) A device as claimed in ^{multiple} any one of the previous claims, wherein the refractive index measuring means are included in said chamber.

10) A device as claimed in claim 9, comprising at least one of the following measurement transmission means:

- 5 - waves (radio, ultrasonic, electromagnetic),
 - optical fibre,
 - electric conductor.